DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 14 March 2011 has been entered. Claims 1, 3, 6, 8, 9, 12-15, 17-19, 23, and 24 remain in the case.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 3, 6, 8, 9, 17-19, 23, and 24 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 and claims dependent thereupon, improper Markush language is used to claim the members of the group. The alternatives "selected from...or" or "selected from the group consisting of...and" are acceptable.

In claim 1 and claims dependent thereupon, the interrelationships of the components and steps of the method are entirely unclear, e.g.: the interrelationships of

serum, secretions, or excretions to the later recited stool or body fluids are not clear; the interrelationship of the previously recited pancreatic elastase iso-enzyme to the later recited human elastase is not clear; the interrelationship of antibodies raised against one or more peptide and used in the immunochemical system to those induced by immunization with all of the recited peptides or "immunogenic portions" thereof are not clear. Are the same antibodies to be used and induced? If so, how does one use antibodies raised against one or more peptides if all of the peptides (i.e., SEQ ID NOs: 2, 3, 5, **and** 4) are required to induce the antibodies? What is intended by applicant as encompassed by "immunogenic portions" of peptides? In these claims, "using" is not a valid method step. In these claims, "the" content and formation lack antecedent basis.

In claim 3 it is not clear which of the recited antibodies, used or induced, is being obtained and, if the antibodies are those induced, if the listed animals are intended as the vertebrate animal. If the induced antibodies are intended,, --the vertebrate-- "animal" should be recited for proper reference to the previously recited claim components.

In claim 23, improper Markush language is used to claim the members of the group. The alternatives "selected from...or" or "selected from the group consisting of...and" are acceptable. It is also not clear what, if anything, in claim 1 is being further limited.

In claim 24, it is not clear if the pancreatic elastase iso-enzyme or the later recited human elastase is "the" elastase.

In claim 6, improper Markush language is used to claim the members of the group. The alternatives "selected from...or" or "selected from the group consisting of...and" are acceptable. In this claim, "the" pancreas lacks antecedent basis.

In claim 17 and claims dependent thereupon, improper Markush language is used to claim the members of the group. The alternatives "selected from...or" or "selected from the group consisting of...and" are acceptable. In these claims, "the" pancreas lacks antecedent basis.

In claim 18, --The-- immunological test kits should be recited for proper reference to the previously recited claim components. It is not clear if both antibodies are to be bound to a carrier.

Applicant's arguments filed 14 March 2011 have been fully considered but they are not deemed to be persuasive. Notwithstanding applicant's assertions to the contrary, applicant's amendments have not obviated rejections under this statute for the reasons set forth above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 8, 23, and 24 are rejected under 35 U.S.C. § 102(b) as being anticipated by Sziegoleit et al. (Clin. Biochem. 22: 79, 1989) in light of the instant disclosure for reasons of record in the prior rejection of the similar subject matter of claims 6-8, 10, and 22.

Claims 1, 3, 8, 23, and 24 are rejected under 35 U.S.C. § 102(b) as being anticipated by Scheefers et al. (U.S. Pat. No. 5,622,837) in light of the instant disclosure for reasons of record in the prior rejection of the similar subject matter of claims 6-8, 10, 11 and 22.

As set forth, Sziegoleit et al. teach elicitation of polyclonal antibodies to purified enzyme and Scheefers et al. teach elicitation of both polyclonal and monoclonal antibodies to purified enzyme and fragments thereof, not only to the suggested antigen/immunogen as instantly excluded, for use in sandwich enzyme-linked immunosorbent assay for diagnosis of pancreatic diseases. As set forth, the enzyme preparation would inherently be a mixture of at least the elastase I isoforms (i.e. elastases IIIA and IIIB), comprising the peptides as instantly claimed. As set forth, the Patent and Trademark Office does not have the facilities and resources to provide the *factual* evidence needed in order to establish that there is a difference, in the first place, between the reagents of the prior art and those instantly disclosed and, that if there is such a difference, that such a difference would have been considered unexpected, i.e. unobvious, by one of ordinary skill in the art. The burden is upon applicant to present

such factual evidence. See e.g. In re Best (195 USPQ 430 (CCPA 1977)) or Ex parte Phillips (28 USPQ2d 1302 (BPAI 1993)). As set forth, applicant has provided no *factual* evidence of a difference for the reagents **as instantly claimed** and those as used in the references.

Applicant's arguments filed 14 March 2011 have been fully considered but they are not deemed to be persuasive. Notwithstanding applicant's assertions to the contrary, as set forth in the extensive reasons of record, there is nothing found in the instantly rejected claims that distinguishes the invention as claimed therein from the antibodies and methods taught in the disclosures of the cited references. In particular, the instantly rejected claims are not limited to immunization with the peptides as asserted--i.e., as set forth, immunogenic portions as now recited in the rejected claims can be the whole peptide(s) as comprised in purified enzyme iso-form(s).

Notwithstanding applicant's assertions to the contrary, applicant's amendments have not obviated rejections under this statute for the reasons set forth above.

Claim Rejections - 35 USC § 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
> (c) Subject matter developed by another person, which qualifies as prior art only under one or more subsections (e), (f) and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned

by the same person or subject to an obligation of assignment to the same person.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

Claims 1, 3, 6, 8, 9, 12-15, 17-19, 23, and 24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combined teachings of Scheefers et al. (U.S. Pat. No. 5,622,837), Tani et al. (J. Biol. Chem. 263: 1231, 1988), and Harlow et al. for reasons of record in the prior rejection of the similar subject matter of these claims.

Applicant's arguments filed 14 March 2011 have been fully considered but they are not deemed to be persuasive.

Applicant again argues that the antibodies of the prior art of Scheefers et al. are specific for a single amino acid sequence. This is again not found persuasive for a number of reasons. Firstly, the disclosures of the references are considered as a whole and are not limited to only the monoclonal antibody commercial embodiment of the sandwich assay derived from Scheefers et al., monoclonal antibodies which, the examiner would again note, are not taught as specific for the peptide as instantly excluded and which may have been produced from the fusion of cells obtained from animals immunized with the purified enzyme (see e.g. Scheefers et al., cols. 2, 3, and 5-6). Again, as is also noted by applicant, the excluded sequence is not found in the purified enzyme. Further, and notwithstanding applicant's assertions to the contrary, the teaching of a preferred peptide does not serve to teach away from any other

fragment or peptide of the enzyme as taught for use in Scheefers et al. (see e.g. col. 2), as modified. As set forth, Scheefers et al. teach the use of purified enzyme, or fragments or peptides thereof, for elicitation of antibodies for use in their pancreatic disease diagnosis methods and Harlow et al. teach that it is conventional in the art to elicit antibodies to peptides derived from a known sequence for use. As set forth, one would have been motivated to have selected dissimilar sequences from amongst the elastase isoforms to elicit antibodies specific for the isoforms or to have selected similar sequences from amongst the elastase isoforms to elicit antibodies specific for elastase, generally, for use in Scheefers et al., as modified, because such selection is routine in the art and well within the skill of an ordinary practitioner from the sequence comparisons presented in Tani et al. Thus, in this case for the reasons of record, ample motivations to combine the references with an extremely reasonable expectation of success have been set forth.

Applicant again refers to particular references in a previously submitted synopsis of publications, some comparing the sensitivity and specificity of a single commercial assay based on the disclosures of the cited prior art publications, particularly that of Scheefers et al., and unspecified embodiments, implicitly of the instant disclosure, as evidence of "the diagnostic relevance for antibodies of present claims." This is again not found persuasive because, as set forth in prior Office actions, it is not even clear what, if any, embodiment(s) of applicant's suggested invention was(were) tested against the single commercial embodiment of the assay taught by the prior art using the

particular monoclonal antibodies taught in Scheefers et al. The examiner would again also note that many of the abstracts listed by applicant teach the comparability of the two tested assays. Moreover, the arguments are also not found persuasive because any showing of a slight difference in specificity between two single embodiments is not a showing commensurate in scope with the invention as instantly claimed, or with the reagents and assays as taught or suggested in the prior art, and does not rise to the level of *factual* evidence of a patentable difference between the reagents and/or methods of the prior art and those instantly disclosed and/or claimed. Notwithstanding applicant's implications to the contrary, a showing of a difference in degree is not evidence of a difference in kind.

Notwithstanding applicant's assertions to the contrary, applicant's amendments have not obviated rejections under this statute for the reasons set forth above.

Remarks

The art made of record and not relied upon is considered pertinent to applicant's disclosure.

Geokas et al. (J. Biol. Chem. 252: 61, 1977) teach an immunoassay for human elastase II in human serum and the elevation of the enzyme therein in individuals with acute pancreatic inflammation (see page 66, col. 2).

Schneider et al. (Clin. Chem. 51: 1052, 2005) teach complications if antibodies in a human elastase detection assay bind to porcine elastases.

The abstract of Weiss et al. (published variously in: J. Ped. Gastroenterol. Nut.; Pancreatology; and Pancreas) teaches that antibodies produced by the instant assignee (BIOSERV) and used in assays of stool elastase do not bind to all isoforms of elastase. Further experimentation is taught as required by the reference for one to assess the specific differences and prognostic value of elastase isoforms in the assessment of exocrine pancreatic insufficiency.

Stein et al. (Clin. Chem. 42: 222, 1996) teach the clinical evaluation of the fecal elastase assay of Scheefers et al. (US 5,622,837).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James L. Grun, Ph.D., whose telephone number is (571) 272-0821. The examiner can normally be reached on weekdays from 9 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Shibuya, SPE, can be contacted at (571) 272-0806.

The phone number for official facsimile transmitted communications to TC 1600, Group 1640, is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application, or requests to supply missing elements from Office communications, should be directed to the Group receptionist whose telephone number is (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/J. L. G./
James L. Grun, Ph.D.

Examiner, Art Unit 1641
May 23, 2011

/GAILENE R. GABEL/
Primary Examiner, Art Unit 1641
5/22/11